

Claims:

- 5 1. A multifunctional implant device for bone augmentation function comprising at least more than one component in its structure, **characterized** in that it comprises
- a biocompatible bioresorbable polymer as as a matrix;
 - an anti-osteolytic agent in said matrix, and
 - a reinforcing structure in close association with the matrix.
- 10 2. The implant device according to claim 1, **characterized** in that the biocompatible bioresorbable polymer of the implant device is self-reinforced.
- 15 3. The implant device according to claim 1, **characterized** in that the implant device comprises discrete reinforcing elements or areas in the matrix.
- 20 4. The implant device according to claim 3, **characterized** in that the matrix is self-reinforced by reinforcing elements or areas of the same bioresorbable polymer.
- 25 5. The implant device according to claim 3, **characterized** in that the matrix is reinforced by reinforcing elements or areas of different material, such as different bioresorbable polymer.
- 30 6. The implant device according to any of claims 1 to 5, **characterized** in that the implant device comprises also osteoconductive and/or osteoinductive material.
- 35 7. The implant device according to claim 6, **characterized** in that the osteoinductive material is one or several from the following: PDGF, IGF-I, IGF-II, FGF, TGF-beta, BMP, angiogenic factors.
8. The implant device according to claim 6 or 7, **characterized** in that the osteoconductive material is one or several from the following: collagen, HA, TCP, bioactive glass, bone graft or its derivative.

9. The implant device according to any of claims 1 to 8, **characterized** in that the antiosteolytic agent is bisphosphonate.
- 5 10. The implant device according to any of claims 1 to 9, **characterized** in that the implant device is a screw, nail, pin, bolt, plate, rod, mesh, filament, bundle of filaments, cord, or thread.